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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,853	08/01/2003	Thomas A. Gray	1244.42981X00	9176
20457 7590 01/08/2007 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER WONG, LUT	
			ART UNIT 2129	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/631,853

Applicant(s)

GRAY ET AL.

Examiner

Lut Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8-1-2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2-25-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

Claims 1-10, 12-29 are pending. Claims 3-6, 8-9 have been amended. Claim 11 has been cancelled. Claim 12-29 are new.

Specification

The disclosure is objected to because of the following informalities: The Specification is full of incomplete sentence, i.e. missing period at the end the sentence, such as in pg. 7 L15.

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Appropriate correction is required.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "user agent" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "1" has been used to designate both user in pg. 15 L33 and user agent in pg. 14 L25. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 7 is objected to because of the following informalities: change "parent 15 node" to "parent node". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10, 12-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "agents representing said features...user agents communicating with each other... to implement said features while avoiding feature interactions". It is not clear how agents implement features while avoiding feature interactions when the agents are communicating with each other and the agents are representing features. It is interpreted as "agents representing said features...user agents communicating with each other... to implement said features" for the purpose of compact prosecution.

Claim 1 recites "successful implementation of said feature". It is not clear what feature is referring to. Besides, the preamble recites features, not feature.

Claim 1 recites "said parent node placing deontic modalities on the behavior of said child nodes such that successful implementation of said feature results from occurrence of said inherent action and composed success of the node actions of said children

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nodes". It is not clear what applicant is intended to claim. It is interpreted as "successful implementation means occurrence of actions" for the purpose of compact prosecution.

Claim 10 recites "In...said...the results...feature interactions". It is not clear what applicant is intended to claim. It is interpreted as claim 1 for the purpose of compact prosecution.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10, 12-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-10, 12-29 constitute software modules devoid of any apparent hardware, and therefore are computer programs e.g., functional descriptive material. Since the computer programs are not embodied on an appropriate computer-readable storage medium, they cannot be afforded patent eligibility.

Also, the claims fail to provide a tangible result, and that there must be a practical application, by

- 1) transforming (physical thing) or
- 2) having the FINAL RESULT (not the steps) achieve produce a

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useful (specific, substantial, AND credible),
concrete (substantially repeatable/ non-unpredictable), AND
tangible (real world/ non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter must be amended. If the specification discloses a practical application but the claim is broader than the disclosure such that it does not require the practical application, then the claim must be amended. A claim that recites a computer that solely calculates a mathematical formula is not statutory.

In instant case, **claims 1-10, 12-29** are drawn to a communication system for implementing personalizable and customizable features comprising a tuple space and a plurality of agents. The claims only mention about agent communications and agent structures, which is merely an abstract idea. There is no result outputted from the system that produces a concrete, useful and tangible result.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-10, 12-29 are rejected under 35 U.S.C. 102(b) as being anticipated
by Buhr et al ("Feature-Interaction Visualization and Resolution in an Agent**

Environment" FIW 1998). Examiner Notes (EN) and related citations are denoted in parenthesis.

Claims 1 and 10: Buhr anticipated a communication system for implementing personalizable and customizable features (See e.g. abstract), comprising: a tuple space (Micmac blackboard. See e.g. Fig. 1); and a plurality of user agents representing said features (Agents. See e.g. Fig. 1), said user agents communicating with each other via assertions posted to said tuple space in order to implement said features (coordination between agents using blackboard. See e.g. Fig. 1), each of said features being structured as a set of deontic task trees (Use Case Maps. See e.g. Fig. 7. *EN: task tree and use case maps are non functionally distinct. They both provide visual representation of structures*) having a parent node with an obliged inherent action (a plug-in e.g. originating agent. See e.g. Fig. 7) and a plurality of child nodes with respective node actions performed according to a predetermined sequence (other plug-ins or stubs. See e.g. Fig. 7. *EN: stub and node are non functionally distinct. Parent node merely means the first stub along the path*), the results of which are reported back to said parent node (notifying caller agent success or not. See e.g. Fig. 7 especially the notify path), said parent node placing deontic modalities on the behavior of said child nodes such that successful implementation of said feature results from successful occurrence of said inherent action and composed success of the node actions of said children nodes (notifying caller agent success or not. See e.g. Fig. 7 especially the notify path).

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Claims 2, 7, and 12: Note that the parent node is provided with a sequence operator (See e.g. Fig. 7 especially “fork” plug-ins. See also section 3.2, especially where it states “we intend to extend it with the OPI model (Obligation-Permission-Interdiction) [2], which allows us to structure goals in a hierarchy of *alternative, parallel, and sequential* sub-goals.”).

Claims 3 and 13: Note that the node actions include an ASK action for placing an assertion in said tuple space seeking permission to perform an intended action, waiting a period of time for replies from any other features that subscribe to said assertion, and thereafter either continuing with or discontinuing said intended action based on an internal policy based on said replies (posting of intentions. See e.g. section 2.2 especially where it states “First, the ORIGINATING feature expresses its intention of connecting A with B by *posting a proposal (or poking a tuple)*. It then waits, for a certain amount of time, for comments from other features”).

Claims 4 and 14: Note that the node actions include an atomic STATE action for placing an assertion in said tuple space notifying all subscribing features of an intention to perform an intended action, and thereafter continuing with said intended action (See e.g. section 2.2 especially where it states “First, the ORIGINATING feature expresses its intention of connecting A with B by *posting a proposal (or poking a tuple)*. It then waits, for a certain amount of time, for comments from other features” and “In our case, OCS and TERMINATING permit the call between A and B, but CF indicates that this call has to be forwarded to X.” *EN: hence the ORIGINATING feature must able to call if CF also permits the call.*).

Claims 5 and 15: Note that the node include an ACT action for placing an assertion in said tuple space that performs an action in said communication system (make a proposal to call and cancel the call based on reply. See e.g. section 2.2 especially where it states "*The second proposal posted by ORIGINATING is therefore a connection between A and X, as suggested by the 'FORWARDTO X' tuple received from CF. As soon as OCS peeks at this proposal, it replies with a PROHIBIT status as X is in A's screening list. From thereon, no matter the comments from the other feature agents (remember that PROHIBIT has the highest priority), ORIGINATING will cancel the call.*").

Claims 6 and 16: Note that the node actions include an OBSERVE action for placing an assertion in said tuple space to monitor events indicating one of either states within said communication system or requests from other agents for its actions (See e.g. section 2.2 especially where it states "Other features, which received the message (peeked using an anti-tuple), reply according to their internal set of rules.").

Claims 8, 17-22: Note that the deontic modalities include Obligated, Interdicted, and Permitted (OPI model. See e.g. section 3.2, especially where it states "we intend to extend it with the *OPI model (Obligation-Permission-Interdiction)* [2], which allows us to structure goals in a hierarchy of alternative, parallel, and sequential sub-goals.")

Claims 9, 23-29: note that the assertions to the tuple space include: Scope, to name said assertions for subscription by a node (comment field. See e.g. Table 1. *EN: scope is merely a description of a feature, it is non functionally distinct from the comment field.*); Fact, to convey information about a user (Preconditions. See e.g. Table 1 and

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Fig. 12. *EN: Fact also convey information about the environment, etc as disclosed in applicant's specification pg. 17 L14 and L26*); Task, to define a goal that a sender action requires a receiver action to perform (Goal. See e.g. Table 1.); and Modulator, to place a constraint on the execution of the goal that a sender action has sent (Task. See e.g. Table 1. *EN: modulator is non functionally distinct from task field, they both constraint what needs to be done to reach the goal*).

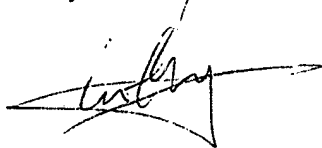
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lut Wong whose telephone number is (571) 270-1123. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent David can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Lut Wong
Patent Examiner 2129



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